

vfrizo`r jä LraHku mik;@Haemostasis

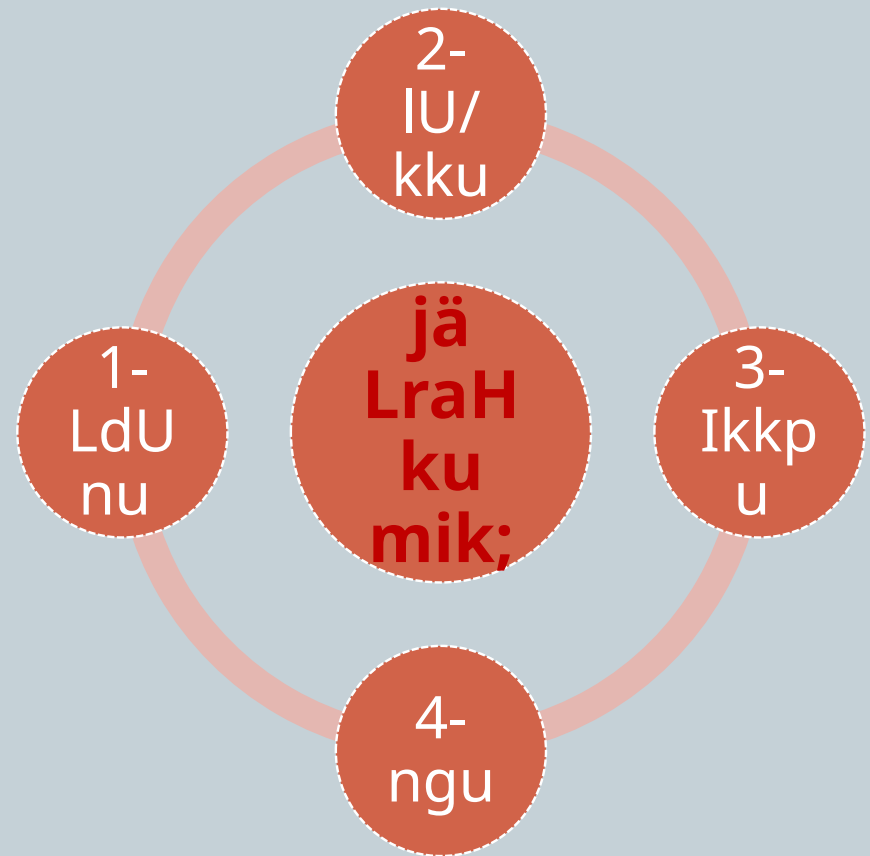
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Haemostasis



- Haemostasis means prevention of blood loss. Haemostasis is followed by several mechanism-

1. Vascular spasms
2. Platelet plug formation
3. Blood clot formation by coagulation
4. Fibrosis tissue into the clot to close the vessel permanently.

1. Vascular constriction – immediately after a blood vessel has been cut or ruptured, the trauma to the vessel to contract . this instantaneously reduces the flow of blood from the vessel rupture. The contraction result from nervous reflexes, local myogenic spasm & local humoral factors from the traumatized tissue & blood platelets.



- The platelets are responsible for much of the vasoconstriction by releasing the vasoconstrictor substance Thromboxane A₂.

2. Platelet plug formation – When platelets come in contact with a damaged vascular surface. The platelets themselves immediately change their characteristics. They begin to swell & assume irregular forms with numerous irradiating pseudopods protruding from their surfaces.

- Platelets secrete Von Willebrand factor & Thromboxane A₂ which are sticky in nature so that they adhere to vessel wall more.
- Therefore at the site of any rent in a blood vessel wall, the damaged vascular wall or extravascular tissue elicit activation thus forms platelet plug.



3. Blood coagulation – The blood clot begins to develop in 15 to 20 seconds if the trauma is severe & if major 1 to 2 minutes. If the vessels opening is not too large the blood clots begins within 3 to 6 minutes.

After 20 min. to an hour the clot retracts, thus closing the vessels.

4. Clotting factors in the blood -

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|---------------------------|--------------------------------------------|---------------------------|------------|
| 1. Fibrinogen | 2. Prothrombin | 3. Tissue factor | 4. Calcium |
| 5. Proaccelerin | 6. Proconvertin | 7. Serum prothrombin | |
| 8. Anti hemophilic factor | | 9. Christmas factor (PTC) | |
| 10. Stuart factor | 11. Plasma thromboplastin antecedent (PTA) | | |
| 12. Hageman factor | 13. Fibrin stabilizing factor | | |



- **Treatment of hemorrhage in surgery**

- **(Method of haemostasis)**

1. Pressure & packing

2. Tourniquets

3. Application of ligatures

4. Application of artery forceps

5. Position & rest

6. Cauterization (diathermy)

7. Application of bone wax. When bleeding from cut edges of the bone.